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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/585,572

07/10/2006

Nobuo Fujita

128602

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25944 7590 06/23/2011

OLIFF & BERRIDGE, PLC

P.O. BOX 320850

ALEXANDRIA, VA 22320-4850

EXAMINER

RHEE, JANE J

ART UNIT

PAPER NUMBER

1726

NOTIFICATION DATE

DELIVERY MODE

06/23/2011

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

OfficeAction25944@oliff.com

jarmstrong@oliff.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/585,572	<b>Applicant(s)</b> FUJITA, NOBUO	
	<b>Examiner</b> JANE RHEE	<b>Art Unit</b> 1726	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2011.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 7 and 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6,9-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date. _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/27/11 has been entered.

### ***Rejections Withdrawn***

2. The 35 U.S.C. 102/103(a) rejection of claims 1-6,9-12 anticipated by or obvious over Ushio et al. has been withdrawn due to applicant's amendment filed on 4/27/11.

### ***New Rejections***

#### ***Claim Rejections - 35 USC § 102/103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-6,9-13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Mohapatra (US20040086757).

As to claim 1, Mohapatra discloses a device for cooling a fuel cell (figure 1) that adjusts a temperature of the fuel cell to a target set temperature by supplying a coolant, comprising electric conductivity measuring means (figure 2 number 223) for measuring

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an electric conductivity of the coolant, temperature means (figure 2 number 216) for measuring a temperature of the coolant, and a control unit that stores a correlation between the temperature and the electric conductivity of the coolant, the control unit being configured to estimate an electric conductivity at the target set temperature (figure 2 number 216, temperature controller controls the temperature and the conductivity paragraph 0084) based on the electric conductivity of the coolant, the temperature of the coolant, and the correlation between the temperature and the conductivity of the coolant, wherein the control unit being configured such that based on a correlation between a parameter related to the temperature of the coolant and the electric conductivity of the coolant, when the electric conductivity at the target set temperature exceeds a target electric conductivity range, the control unit controls the parameter related to the temperature of the coolant so as to maintain the electric conductivity at the target set temperature within the target electric conductivity range (paragraph 0084).

As to claim 2, Mohapatra discloses wherein the parameter related to the temperature of the coolant is at least one element selected from the group including the temperature of the coolant (paragraph 0084).

As to claim 3, Mohapatra discloses wherein the temperature of the coolant is controlled by changing at least one of the cooling degree of the coolant and the operation state of the fuel cell (paragraph 0084).

As to claim 4, Mohapatra discloses further comprising electric conductivity decreasing means for decreasing the electric conductivity of the coolant, wherein the parameter related to the temperature of the coolant is controlled based on the

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decrease quantity of the electric conductivity with the electric conductivity decreasing means (paragraph 0084-0086).

As to claim 5, Mohapatra discloses comprising means for decreasing the target set temperature when the electric conductivity at the target set temperature exceeds the target electric conductivity range (paragraph 0084-0086).

As to claim 6, Mohapatra discloses, further comprising means for increasing the target set temperature within a range in which the electric conductivity at the target set temperature does not exceed the target electric conductivity range (paragraph 0084-0086).

As to claim 9, Mohapatra discloses wherein the temperature of the coolant is controlled by changing at least one of the cooling degree of the coolant and the operation state of the fuel cell (paragraph 0084).

As to claims 10-12 Mohapatra discloses further comprising electric conductivity decreasing means for decreasing the electric conductivity of the coolant, wherein the parameter related to the temperature of the coolant is controlled based on the decrease quantity of the electric conductivity with the electric conductivity decreasing means (paragraph 0084).

As to claim 13, Mohapatra discloses a device for cooling a fuel cell that adjusts a temperature of the fuel cell to a target set temperature by supplying a coolant, comprising: a control unit (figure 1 number 216), the control unit including a processor and a non-transitory computer-readable storage medium, the non-transitory computer-readable storage medium storing: a correlation between a temperature of the coolant

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and an electric conductivity of the coolant; and instructions for causing the processor to execute processing that: estimates an electric conductivity at the target set temperature based on the electric conductivity of the coolant, the temperature of the coolant, and the correlation between the temperature and electric conductivity of the coolant; and instructs the control unit to control a parameter related to the temperature of the coolant so as to maintain the electric conductivity at the target set temperature within a target electric conductivity range, when the electric conductivity at the target set temperature exceeds the target electric conductivity range based on a correlation between the parameter related to the temperature of the coolant and the electric conductivity of the coolant (paragraph 0084-0086).

### ***Response to Arguments***

4. Applicant's arguments with respect to claims 1-6,9-13 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JANE RHEE whose telephone number is (571)272-1499. The examiner can normally be reached on M-F 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jane Rhee/  
Primary Examiner, Art Unit 1726